

ABSTRACT

The present invention relates to a composite semipermeable membrane, which is useful as a reverse osmosis membrane or a nano-filtration membrane and comprises a polysulfone porous support membrane and a polyamide ultrathin layer formed on one of the surfaces of the porous support membrane, the composite membrane having the characteristic that in the infrared absorption spectrum obtained from the surface of a polyamide ultrathin layer of the composite semipermeable membrane, the ratio  $T (=A_a/A_s)$  of absorption intensity  $A_a$  at the absorption peak revealing C=O of polyamide in the region of 1600-1700  $\text{cm}^{-1}$  to absorption intensity  $A_s$  at the absorption peak revealing polysulfone at a wavenumber around 1586  $\text{cm}^{-1}$  is at least 0.05 and not higher than 3. The composite semipermeable membrane thus obtained can attain conversion of sea water into fresh water, desalination of brackish water, recovery of valuable matter in aqueous solutions, treatment of waste water, and particularly removal of impurities (e.g., organic substances) from water.